

FCC Docket WT No. 06-150
“700 MHz Further NPRM”

Verizon Wireless Meeting of June 4, 2007

The Commission should adopt a band plan that facilitates wireless broadband development and participation by a variety of companies.

- VZW supports FCC-recommended plan for Lower Band (FNPRM, Figure 3)
- VZW supports “Proposal 3” for Upper Band (FNPRM, Figure 8)

The Commission should reject proposals to radically restructure licensee performance requirements.

- If Commission believes specific rules are needed, population-based requirements will ensure rapid, efficient build-out of commercial and public safety networks.
 - 50% POP coverage within 5 years
 - If not met, license term reduced to 8 years
 - 75% POP coverage by end of license term (8 or 10 years)
 - If not met, licensee loses uncovered area (“Keep what you use”)

The Commission should adopt procedures that promote a competitive auction.

- Requests to prohibit incumbents from bidding should be rejected.
- Package bidding should not be used for the auction.
- Anonymous bidding should be used with no eligibility ratio threshold.

The Commission should adopt rules that promote public-private partnerships.

- Frontline “poison pills” should be rejected.
 - “Open access,” wholesale-only, and automatic roaming requirements are designed to restrict participation and advantage Frontline.
 - “Open access” requirement would undermine public safety objectives.
- Public safety must have control over how its spectrum is used and how any public safety network is built.
- Frontline proposal creates enormous uncertainty and risk for commercial licensees and public safety.
- If a “conditioned license” approach is adopted, the Commission must work with Public Safety to identify requirements in advance of the auction.

**FCC Docket WT No. 06-150
“700 MHz Report and Order”**

Verizon Wireless Meeting of June 4, 2007

The Commission modified its 700 MHz power rules to establish greater parity among different wireless technologies and to promote deployment in rural areas.

- “Power spectral density” rule to better accommodate all technologies and ensure that broadband technologies are not disadvantaged
- Higher power limits in rural areas to promote rural deployment
- Modifications to Lower A & B Blocks to promote use for mobile services
- Retention of 50 kW limit for Lower C, D & E Blocks to support broadcast

Verizon Wireless generally supports Commission’s actions, as they are generally consistent with the broader industry’s efforts.

However, certain changes and/or clarifications are needed to provide clarity and ensure the Commission’s objectives are attained.

- R&O applies PFD and notification rules disparately to Upper and Lower bands
- Some rules are ambiguous and/or appear to contradict other rules

Verizon Wireless proposes that the rules be modified in accordance with the attachment.

Verizon Wireless Meeting of June 4, 2007
Proposed New Power Rules for 700 MHz Band

§ 27.50 Power and antenna height limits.

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(b) The following power and antenna height limits apply to transmitters operating in the 698-764 MHz and 776-794 MHz bands:

(1) Fixed and base stations transmitting a signal in the 746-747 and 762-764 MHz bands must not exceed an effective radiated power (ERP) of 1000 watts and an antenna height of 305 m height above average terrain (HAAT), except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts ERP in accordance with Table 1 of this section.

(2) Fixed and base stations transmitting a signal in the 698-746, 747-762 MHz and 777-792 MHz bands with an emission bandwidth of 1 MHz or less must not exceed an ERP of 1000 watts, except as described in paragraph (3) below. In addition, antennas used with these stations are limited to a height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts ERP in accordance with Table 1 of this section.

(3) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 698-746, 747-762 MHz and 777-792 MHz bands with an emission bandwidth of 1 MHz or less must not exceed an ERP of 2000 watts and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts ERP in accordance with Table 2 of this section.

(4) Fixed and base stations transmitting a signal in the 698-746, 747-762 MHz and 777-792 MHz bands with an emission bandwidth greater than 1 MHz must not exceed an ERP of 1000 watts/MHz, except as described in paragraph (5) below. In addition, antennas used with these stations are limited to a height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 1000 watts/MHz ERP accordance with Table 3 of this section.

(5) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal in the 698-746, 747-762 MHz and 777-792 MHz bands with an emission bandwidth greater than 1 MHz must not exceed an ERP of 2000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts/MHz ERP in accordance with Table 4 of this section.

(6) Licensees authorized to transmit in the 698-746, 747-762 or 777-792 MHz bands and intending to operate a base or fixed station at an ERP greater than 1000 watts and greater than 1000 watts/MHz must provide advanced notice of such operation to licensees authorized in their area of operation. Licensees who must be notified are all co-channel and adjacent channel licensees authorized to operate in the 698-746, 747-762, and 777-792 MHz bands within 75 mi of the base or fixed station, including all licensees authorized to operate in the 764-776 MHz and 794-806 MHz bands under Part 90 of this chapter and all regional planning committees, as identified in §90.527 of this chapter, with jurisdiction within 75 mi of the base or fixed station. Notifications must provide the location and operating parameters of the base or fixed station, including the station's ERP, antenna coordinates, antenna height above ground, and vertical antenna pattern, and such notifications must be provided at least 90 days prior to the commencement of station operation

(7) A licensee authorized to operate in the 710-716, 716-722, or 740-746 MHz bands, or in any unpaired spectrum blocks within the 698-746 MHz band, may operate a fixed or base station at an ERP up to a total of 50 kW within its authorized, 6 MHz spectrum block if the licensee complies with the provisions of §27.55(b). The antenna height for such stations is limited only to the extent required to satisfy the requirements of §27.55(b).

(8) Control stations and mobile stations transmitting in the 698-746 MHz, 747-762 MHz, and 776-794 MHz bands and fixed stations transmitting in the 776-777 MHz and 792-794 MHz bands are limited to 30 watts ERP;

(9) Portable stations (hand-held devices) transmitting in the 747-762 MHz and 776-794 MHz bands are limited to 3 watts ERP;

(10) For transmissions in the 698-746 MHz, 746-747 MHz, 762-764 MHz, 776-777 MHz, and 792-794 MHz bands, maximum composite transmit power shall be measured over any interval of continuous transmission using instrumentation calibrated in terms of RMS-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, etc., so as to obtain a true maximum composite measurement for the emission in question over the full bandwidth of the channel.

(11) For transmissions in the 698-746 MHz, 747-762 MHz and 777-792 MHz bands, licensees may employ equipment operating in compliance with either the measurement techniques described in paragraph (b)(11) or a Commission-approved average power technique. In both instances, equipment employed must be authorized in accordance with the provisions of 27.51.

Table 1 - Permissible Power and Antenna Heights for Base and Fixed Stations in the 746-747 MHz and 762-764 MHz Bands and for Base and Fixed Stations in the 698-746 MHz, 747-762 MHz, and 777-792 MHz Bands Transmitting a Signal with an Emission Bandwidth of 1 MHz or Less	
Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts)
Above 1372 (4500)	65
Above 1220 (4000) To 1372 (4500)	70
Above 1067 (3500) To 1220 (4000)	75
Above 915 (3000) To 1067 (3500)	100
Above 763 (2500) To 915 (3000)	140
Above 610 (2000) To 763 (2500)	200
Above 458 (1500) To 610 (2000)	350
Above 305 (1000) To 458 (1500)	600
Up to 305 (1000)	1000

Table 2 – Permissible Power and Antenna Heights for Base and Fixed Stations in the 698-746 MHz, 747-762 MHz, and 777-792 MHz Bands Transmitting a Signal with an Emission Bandwidth of 1 MHz or Less	
Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts)
Above 1372 (4500)	130
Above 1220 (4000) To 1372 (4500)	140
Above 1067 (3500) To 1220 (4000)	150
Above 915 (3000) To 1067 (3500)	200
Above 763 (2500) To 915 (3000)	280
Above 610 (2000) To 763 (2500)	400
Above 458 (1500) To 610 (2000)	700

Above 305 (1000) To 458 (1500)	1200
Up to 305 (1000)	2000

Table 3 – Permissible Power and Antenna Heights for Base and Fixed Stations in the 698-746 MHz, 747-762 MHz and 777-792 MHz Bands Transmitting a Signal with an Emission Bandwidth Greater than 1 MHz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) per MHz (watts/MHz)
Above 1372 (4500)	65
Above 1220 (4000) To 1372 (4500)	70
Above 1067 (3500) To 1220 (4000)	75
Above 915 (3000) To 1067 (3500)	100
Above 763 (2500) To 915 (3000)	140
Above 610 (2000) To 763 (2500)	200
Above 458 (1500) To 610 (2000)	350
Above 305 (1000) To 458 (1500)	600
Up to 305 (1000)	1000

Table 4 – Permissible Power and Antenna Heights for Base and Fixed Stations in the 698-746 MHz, 747-762 MHz and 777-792 MHz Bands Transmitting a Signal with an Emission Bandwidth Greater than 1 MHz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) per MHz (watts/MHz)
Above 1372 (4500)	130
Above 1220 (4000) To 1372 (4500)	140
Above 1067 (3500) To 1220 (4000)	150
Above 915 (3000) To 1067 (3500)	200
Above 763 (2500) To 915 (3000)	280

Above 610 (2000) To 763 (2500)	400
Above 458 (1500) To 610 (2000)	700
Above 305 (1000) To 458 (1500)	1200
Up to 305 (1000)	2000

§ 27.55 Power strength limits.

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(b) *Power flux density limit for stations operating in the 698-746 MHz bands.* For base and fixed stations operating in the 698-746 MHz band in accordance with the provisions of §27.50(b)(7) of this chapter, the power flux density that would be produced by such stations through a combination of antenna height and vertical gain pattern must not exceed 3000 microwatts per square meter on the ground over the area extending to 1 km from the base of the antenna mounting structure.